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09/328,921	06/09/1999	RONALD W. BARBER	066287.0113	7466

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EXAMINER

CARDONE, JASON D

ART UNIT	PAPER NUMBER
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2152

DATE MAILED: 01/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/328,921

Applicant(s)  
Barber et al.

Examiner  
Jason D. Cardone

Art Unit  
2152



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 9, 2001
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7 and 8
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☒ Other: See Attached Office Action

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## **DETAILED ACTION**

### ***Specification***

1. The status of the co-pending applications [Spec, page 1] need to be updated.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Dolin, Jr. et al.

“Dolin”, U.S. Patent No. 5,737,529.

4. Regarding claim 21, Dolin discloses a control area network comprising:

a master controller [ie. control cell, Dolin, col. 6, line 47 - col. 7, line 17 and col. 8, line 39 - col. 9, line 19];

a plurality of devices coupled to the master controller, each the device having a respective state representing a plurality of data values associated with the respective devices [temperature sensors, Dolin, col. 6, line 47 - col. 7, line 17 and col. 9, line 20 -col. 10, line 41];

a virtual device associated with a set of the devices, the virtual device having a virtual device state representing a plurality of data values associated with the virtual device, the virtual device linking the virtual device state and the respective states associated with the set [ie.

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programming within the control cell interface to the temp. sensors, Dolin, col. 11, line 13 - col. 15, line 16].

5. Regarding claim 22, Dolin further discloses the virtual device state and the respective states are maintained in a substantially similar condition [Dolin, col. 9, line 20 -col. 10, line 41 and col. 14, lines 22-38].

6. Regarding claim 23, Dolin further discloses a device manager associated with the master controller and the virtual device being further associated with the device manager [Dolin, col. 6, line 47 - col. 7, line 17 and col. 8, line 39 - col. 9, line 19].

7. Regarding claim 24, Dolin further discloses a data state change request received by the virtual device, a plurality of respective device state change requests generated by the virtual device for each device in the set in response to the data state change request and wherein the device state change requests are sent to the each device in the set [Dolin, col. 11, line 13 - col. 15, line 16 and col. 17, lines 1-63].

8. Regarding claim 25, Dolin further discloses the data state change request is a command sent by the master controller in the control area network [Dolin, col. 8, line 39 - col. 9, line 19].

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9. Regarding claim 26, Dolin further discloses the virtual device updates the virtual device state in response to the data state change request and each of the devices in the set update the respective states in response to the device state change requests [Dolin, col. 11, line 13 - col. 15, line 16 and col. 17, lines 1-63].

10. Regarding claim 27, Dolin further discloses the device state change requests are generated by replicating the data state change request received by the virtual device such that each the device state change request is substantially similar to the data state change request [Dolin, col. 11, line 13 - col. 15, line 16].

11. Regarding claim 28, Dolin further discloses level input, wherein each of the virtual device state and the respective states include a level data portion therein, wherein the devices in the set are each operable to respond to the level input by changing the level data portion of the respective states, wherein the change in the level data portion of state of one of the devices in the set is effected in the level data portion of the state associated with each of the devices in the set distinct from the one of the devices in the set and in the level data portion of the virtual device state such that each of the level data portions of the respective states associated with the devices in the set and the virtual device state are maintained in a substantially similar condition [Dolin, col. 11, lines 40-67 and col. 19, line 13 - col. 21, line 30].

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12. Regarding claim 29, Dolin further discloses channel change input, wherein each of the virtual device state and the respective states include a channel data portion therein, wherein the devices in the set are each operable to respond to the channel input by changing the channel data portion of the respective states, wherein the change in the channel data portion of state of one of the devices in the set is effected in the channel data portion of the virtual device state [Dolin, col. 11, lines 40-67 and col. 19, line 13 - col. 21, line 30].

13. Regarding claim 30, Dolin further discloses string change input, wherein each of the virtual device state and the respective states include a string data portion therein, wherein the devices in the set are each operable to respond to the string input by changing the string data portion of the respective states, wherein the change in the string data portion of state of one of the devices in the set is effected in the string data portion of the virtual device state [Dolin, col. 11, lines 40-67 and col. 19, line 13 - col. 21, line 30].

14. Regarding claim 31, Dolin further discloses command change input, wherein each of the virtual device state and the respective states include a command data portion therein, wherein the devices in the set are each operable to respond to the command input by changing the command data portion of the respective states, wherein the change in the command data portion of state of one of the devices in the set is effected in the command data portion of the virtual device state [Dolin, col. 11, lines 40-67 and col. 19, line 13 - col. 21, line 30].

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15. Regarding claim 32, Dolin further discloses the level input is from an associated external device associated with the devices [Dolin, col. 18, lines 6-54].

16. Regarding claim 33, Dolin further discloses the level input is an external input from a user [Dolin, col. 18, lines 6-54].

17. Regarding claim 34, Dolin further discloses linking between the virtual device state and the respective device states may be created at run-time [Dolin, col. 18, line 20 - col. 19, line 67].

18. Regarding claim 35, Dolin further discloses linking between the virtual device state and the respective device states may be modified at run-time [Dolin, col. 18, line 20 - col. 19, line 67].

19. Regarding claim 36, Dolin further discloses the linking between the virtual device state and the respective device states may be defined only at compile time and may only be changed by resetting the master controller [Dolin, col. 18, line 20 - col. 19, line 67].

20. Regarding claims 1-20 and 37-45, claims 1-20 and 37-45 have similar limitations as claims 21-36. Therefore, they are rejected under Dolin for the same reasons set forth in the rejection of claims 21-36 [Supra 21-36].

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***Claim Rejections - 35 USC § 103***

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CAR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

22. Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatakeyama, U.S. Patent No. 5,739,760, in view of Yuasa et al. "Yuasa", U.S. Patent No. 6,085,238.

23. Regarding claim 21, Hatakeyama discloses a control area network comprising:  
a master controller [ie. master system, Hatakeyama, col. 4, line 39 - col. 5, line 46];  
a plurality of devices coupled to the master controller, each the device having a respective state representing a plurality of data values associated with the respective devices [ie. slaves, Hatakeyama, col. 5, line 47 - col. 6, line 67 and col. 9, line 55 - col. 10, line 27];



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a host-side communication device associated with a set of the devices, the host-side communication device having a host-side communication device state representing a plurality of data values associated with the host-side communication device, the host-side communication device linking the host-side communication device state and the respective states associated with the set [Hatakeyama, col. 10, line 27 - col. 11, line 40 and col. 14, line 42 - col. 17, line 60].

Hatakeyama does not specifically disclose a virtual device linking the virtual device state to the states of the slaves. However, Yuasa, in the same field of endeavor, discloses a virtual network which forms virtual groups, so that a virtual device having a virtual device state representing a plurality of data values associated with the virtual device and the virtual device linking the virtual device state and the respective states associated with the set [Yuasa, col. 6, line 58 - col. 10, line 67 and col. 17, line 32 - col. 20 line 65]. It would have been obvious to one having the ordinary skill in the art, at the time the invention was made, to incorporate the virtual device, taught by Yuasa, into the management system, taught by Hatakeyama, since Yuasa suggests office/building automation, similar to the building controlling system disclosed by Hatakeyama [Hatakeyama, col. 1, line 19-31], but to form a structure independent of the physical world [Yuasa, col. 1, line 5-48]. One of ordinary skill in the art would have been motivated to modify Hatakeyama to include the virtual device, in view of Yuasa, so as to be able to change the network dynamically (ie. change in groupings of slaves).

Therefore, it would have been obvious to combine Hatakeyama and Yuasa (Hatakeyama-Yuasa) to obtain the invention as specified in claim 21.

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24. Regarding claim 22, Hatakeyama-Yuasa further discloses the virtual device state and the respective states are maintained in a substantially similar condition [Hatakeyama, col. 5, line 47 - col. 6, line 67 and col. 9, line 55 - col. 10, line 27] [Yuasa, col. 17, line 32 - col. 20 line 65].

25. Regarding claim 23, Hatakeyama-Yuasa further discloses a device manager associated with the master controller and the virtual device being further associated with the device manager [Hatakeyama, col. 4, line 39 - col. 5, line 46] [Yuasa, col. 20, line 12 - col. 21, line 51].

26. Regarding claim 24, Hatakeyama-Yuasa further discloses a data state change request received by the virtual device, a plurality of respective device state change requests generated by the virtual device for each device in the set in response to the data state change request and wherein the device state change requests are sent to the each device in the set [Hatakeyama, col. 5, line 47 - col. 6, line 67 and col. 9, line 55 - col. 10, line 27] [Yuasa, col. 6, line 58 - col. 10, line 67 and col. 17, line 32 - col. 20 line 65].

27. Regarding claim 25, Hatakeyama-Yuasa further discloses the data state change request is a command sent by the master controller in the control area network [Hatakeyama, col. 4, line 39 - col. 5, line 46] [Yuasa, col. 20, line 12 - col. 21, line 51].

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28. Regarding claim 26, Hatakeyama-Yuasa further discloses the virtual device updates the virtual device state in response to the data state change request and each of the devices in the set update the respective states in response to the device state change requests [Hatakeyama, col. 9, line 55 - col. 10, line 27] [Yuasa, col. 17, line 32 - col. 20 line 65].

29. Regarding claim 27, Hatakeyama-Yuasa further discloses the device state change requests are generated by replicating the data state change request received by the virtual device such that each the device state change request is substantially similar to the data state change request [Hatakeyama, col. 9, line 55 - col. 10, line 27] [Yuasa, col. 17, line 32 - col. 20 line 65].

30. Regarding claim 28, Hatakeyama-Yuasa further discloses level input, wherein each of the virtual device state and the respective states include a level data portion therein, wherein the devices in the set are each operable to respond to the level input by changing the level data portion of the respective states, wherein the change in the level data portion of state of one of the devices in the set is effected in the level data portion of the state associated with each of the devices in the set distinct from the one of the devices in the set and in the level data portion of the virtual device state such that each of the level data portions of the respective states associated with the devices in the set and the virtual device state are maintained in a substantially similar condition [Hatakeyama, col. 10, line 27 - col. 11, line 40 and col. 14, line 42 - col. 17, line 60] [Yuasa, col. 21, lines 9-33 and col. 34, line 23 - col. 35, line 63].

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31. Regarding claim 29, Hatakeyama-Yuasa further discloses channel change input, wherein each of the virtual device state and the respective states include a channel data portion therein, wherein the devices in the set are each operable to respond to the channel input by changing the channel data portion of the respective states, wherein the change in the channel data portion of state of one of the devices in the set is effected in the channel data portion of the virtual device state [Hatakeyama, col. 10, line 27 - col. 11, line 40 and col. 14, line 42 - col. 17, line 60] [Yuasa, col. 21, lines 9-33 and col. 34, line 23 - col. 35, line 63].

32. Regarding claim 30, Hatakeyama-Yuasa further discloses string change input, wherein each of the virtual device state and the respective states include a string data portion therein, wherein the devices in the set are each operable to respond to the string input by changing the string data portion of the respective states, wherein the change in the string data portion of state of one of the devices in the set is effected in the string data portion of the virtual device state [Hatakeyama, col. 10, line 27 - col. 11, line 40 and col. 14, line 42 - col. 17, line 60] [Yuasa, col. 21, lines 9-33 and col. 34, line 23 - col. 35, line 63].

33. Regarding claim 31, Hatakeyama-Yuasa further discloses command change input, wherein each of the virtual device state and the respective states include a command data portion therein, wherein the devices in the set are each operable to respond to the command input by changing the command data portion of the respective states, wherein the change in the command data portion

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of state of one of the devices in the set is effected in the command data portion of the virtual device state [Hatakeyama, col. 10, line 27 - col. 11, line 40 and col. 14, line 42 - col. 17, line 60] [Yuasa, col. 21, lines 9-33 and col. 34, line 23 - col. 35, line 63].

34. Regarding claim 32, Hatakeyama-Yuasa further discloses the level input is from an associated external device associated with the devices [Hatakeyama, col. 10, lines 14-27] [Yuasa, col. 19, lines 18-63].

35. Regarding claim 33, Hatakeyama-Yuasa further discloses the level input is an external input from a user [Hatakeyama, col. 10, lines 14-27] [Yuasa, col. 19, lines 18-63].

36. Regarding claim 34, Hatakeyama-Yuasa further discloses linking between the virtual device state and the respective device states may be created at run-time [Hatakeyama, col. 13, line 17 - col. 14, line 37] [Yuasa, col. 20, lines 12-65].

37. Regarding claim 35, Hatakeyama-Yuasa further discloses linking between the virtual device state and the respective device states may be modified at run-time [Hatakeyama, col. 13, line 17 - col. 14, line 37] [Yuasa, col. 20, lines 12-65].

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38. Regarding claim 36, Hatakeyama-Yuasa further discloses the linking between the virtual device state and the respective device states may be defined only at compile time and may only be changed by resetting the master controller [Hatakeyama, col. 13, line 17 - col. 14, line 37] [Yuasa, col. 20, lines 12-65].

39. Regarding claims 1-20 and 37-45, claims 1-20 and 37-45 have similar limitations as claims 21-36. Therefore, they are rejected under Hatakeyama-Yuasa for the same reasons set forth in the rejection of claims 21-36 [Supra 21-36].

### ***Conclusion***

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason D. Cardone, whose telephone number is (703) 305-8484.

The examiner can normally be reached on Monday through Thursday from 9:00am to 6:00pm.

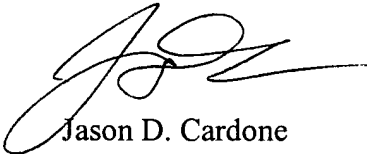
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart, can be reached on (703) 305-4815.

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The fax numbers for the organization where this application or proceeding is assigned are as follows:

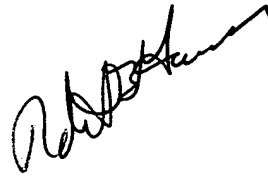
(703) 746-7238	(After Final Communications)
(703) 746-7239	(Official Communications)
(703) 746-7240	(For Status inquiries, Draft Communications)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900.



Jason D. Cardone

January 20, 2002



**ROBERT B. HARRELL**  
**PRIMARY EXAMINER**